

Lottie sobbed, claiming her share in Osmund.

Disloyalty on the part of the lover who had never vexed her soul with the trifling cruelties common to the race of lovers, appeared impossible to Anastasia, whose own faith was entire; so that the blow which presently fell upon her was like a thunderbolt from a clear sky. When she was sick with hope deferred, came a letter from Paris, so constrained in tone and dwelling so hopelessly upon the barrier raised between them by his father's opposition, that it needed not the brevity for which he excused himself by saying that he had hurt his hand, to show the poor girl with cruel distinctness that she was virtually forsaken.

Horrible blow to her love, her pride, her hopes—nay, it destroyed even the past that had worn so false a sweetness, for it proved his heart to have been unsound, his mind wavering all through.

For Lottie's sake she tried to rouse herself, but succeeded indifferently.

Dragging herself to the task, she wrote to free him from the engagement, and read the answer which came by return of post with a bitter contempt that only added more cutting pain to the wound.



She wrote to free him.

Doubtless he had fallen in with some woman who had had for him so strong a fascination that his old dear, admiring love for her had shrunk into a passing fancy. And yet, how could any sudden attraction have so deep and true an existence as that gradually developed affection in which all the best part of his nature had been called out?

Slowly covering her incurable wound, she looked around her—ah, the world was full of inexplicable wrongs and transformations; she wondered she had never noticed it before; and ceasing to wonder at her own share in them she resolved to guard Lottie from such treacheries. Lottie should be hard hearted and give all her love to learning, for books betray not, knowledge certainly rewards its lovers; and she would rather see her in spectacles, with short unkempt hair, than wasting her heart on a man, who is unstable as water.

And so, with gallant strivings to fill up the rent made by falsehood, with wisdom of practice and learning, Tasia learnt to creep through three long months with iron yoke instead of wings upon her shoulders. Neither the first, nor the last in very truth—but it takes courage, and that of no mean order.

While Lottie was at school she spent her time at the British museum, and wrote a few little articles, and made charming translations, some of which found their way into a magazine.

At the very end of July, when only those who could not get away were still in town, she and Lottie dined with friends, and went after dinner into the illuminated Horticultural gardens. Lottie had been promised to see the fountains playing, and the party was chiefly on her account.

Among the two or three other guests was Dick Sherrieff, a cousin of the family, who had gone on the stage, and was so far successful that now and then he got an engagement for a leading part in a touring company. He was a quiet, pleasant fellow, with a good looking, disappointed face. He and Anastasia, who were old acquaintances, found themselves together when they entered the gardens, and he fell into somewhat confidential talk, finding her sympathetic. Lottie roamed about in ecstasies with the colored beads of light in strings, festoons, and mocking the fruit on the trees of Aladdin's garden; with the fairy buildings started out against the indigo sky, above all with the foamy fountains dancing on high like so many of Undine's relations, mantled superbly in colored lights.

Anastasia and Sherrieff found a quiet seat at a comfortable distance from the band. People were walking and sitting all round them, and they amused themselves by watching the groups.

"Shall we move away from the smoke of that cigar?" Mr. Sherrieff asked presently. "I'm afraid it comes across your face. By Jove! This last exclamation was to himself, as he distinctly caught the profile of the smoker.

Anastasia followed his gaze and turned ghastly pale. Osmund's face, his clean cut aquiline profile, his marked eyebrows, his crisp mustache some shades lighter than his hair—worn a trifle longer than formerly—even the heavy intaglio ring on the hand now raised to his cigar—all were before her. The beating of her heart almost choked her; she was afraid her companion might hear her sobbing breath, and see that she trembled from head to foot. She must get the better of the icy pain somehow. Love—the heartlessness of his last letter had killed that—but oh the anguish! There had even been hinted reproach to her for not having broken off the engagement before; she writhed as she thought of it.

"And how I deceived myself in my blindness," she thought bitterly. "I see now in his face what I ought to have seen before—cold self seeking. He must have altered gradually, for no one could now be attracted by the look of goodness I fancied I could see."

"You know that man?" she asked young Sherrieff.

"So far that once he tried his fortunes on the stage at Manchester in the company with which I was acting. His name is Questin; pretty good on the stage, no good off, I imagine. He seems pretty happy now. Come back from the 'road to ruin' by the looks of him, with the heavy father reconciled."

No doubt the old gentleman with red face and double eye glasses, who was speaking emphatically at that moment, was Mr. Questin, Sr.

"Can't go on, I tell you. What I want to know is what does it mean? I know, I know, it's all a trick to get my consent to marrying that little hussy."

Anastasia made a strong effort and rose. "We do not want to be taken into family confidences," she said with a face so pale and strained that Dick Sherrieff was startled.

But it was not so easy to extricate themselves at once from the second row of seats in which they were, for other persons had come in after them. Tasia dreaded to hear Osmund's voice in answer, and her own head was swimming, her ears throbbing, so that when he spoke the words were partly muffled—yet she could not help listening with passionate eagerness. Perhaps something he said might make his conduct appear less black. If so, it might save a shred of her torn self respect.

"I told you, my dear father, that I regretted extremely having been such a fool as to allow that young lady to stand between you and me. I was mistaken in her. I have good reason to know that you were right and I was wrong, and the affair is wholly at an end."

He happened to turn, as Anastasia passed out, to knock off the end of his cigar. The ash touched her dress, he begged pardon, lifted his hat and looked her in the face. For an instant—such instants are comprehensive—their eyes met, each gazing into the other's. The pause on Anastasia's part was perceptible to her companion.

"Mr. Sherrieff," she said, "I feel rather giddy, I think—shall we find another seat? I cannot walk just at this moment."

That something was more than a little wrong he did not doubt; he quietly steered her to a chair out of the lamp-light and waited for further orders. She remained profoundly silent, in that still silence suggestive of strong underworkings.

"Will you answer me a question upon your honor, Mr. Sherrieff?" she asked at length.

"I will," he answered; "I am sure you will not put an impossible one."

"No—just this: Have you observed anything about me which would lead you to doubt my perfect sanity? Am I like a person who could be the subject of a hallucination, or anything temporary of that kind?"

"If that is all, I can honestly assure you, Miss Garnham, that I feel the utmost confidence in your clearness of mind; it was just that that struck me in you at once."

She heaved a deep sigh. "Thank you. Now tell me all you remember about that—Mr. Questin, please; it is of great importance to me."

"Really, I hardly exchanged two words with him, though I was in company with him, more or less, for three weeks, but we did not play in the same piece, and I did not fancy him particularly, to say the truth."

"Should you have considered him a good kind of man, one who would probably interest himself in philanthropic work? Or at all scientific—who had studied medicine for the sake of being useful?"

Sherrieff looked unfeignedly astonished. "Why, no; rather the reverse of all that—an idler pure and simple, or only laboring for his own ends."

"And yet," she said, "I knew Mr. Questin's son for more than four years well, for two years very well—and that was the sort of man he was."

Dick looked embarrassed. "I dare say you thought so, Miss Garnham. Some men are such awful liars—I mean humbugs—where women are concerned. But, really, perhaps you might have idealized him without being aware of it, you know."

"Yes," she answered, "it is possible, and human nature is inconsistent, I know that. And yet, Mr. Sherrieff, will you be so kind as to take me as close to that man as possible; and may I ask you as a favor to find out for me where he is stopping? It is of immeasurable importance."

"I am quite at your service; if you want to know more I will find out."

"Whatever you can," she said earnestly. "I cannot yet tell you why, but later on—"

"Never mind—I have faith in you, and you shall see by my acquaintance of this trust how far you can depend on me. It is a pact."

They went back and seated themselves where Anastasia could best observe the Questins, father and son.

"Next to the stage, give me a bit of detective work," Dick said to himself. He really had faith that he was not being made use of to gratify some hysterical freak; Anastasia's face and manner were his warrant against that.

In two days Dick brought his note book to Miss Garnham.

"Stopping with old father at the Langham, lately come from abroad. Spends money like water; rich people, with some sort of place in Warwickshire—only son. No intimate friends. Very few letters."

"Please give me something else to do for you; I am tremendously interested."

"You know, perhaps, that I had special reason to be interested in Mr. Osmund Questin," Tasia said in a low voice.

"Who—who the—who is he, then, Miss Garnham?"

"That is what I mean to find out, and where!"

Here she stopped, turning very pale. Dick looked away from her, knowing her thought. If so, where indeed was poor Osmund? There was but one answer: in the grave, or this impostor would never have dared represent him.

"When our eyes met, as he apologized for knocking his cigar ash on to my dress, there was not a gleam of recognition in his," she went on. "He looked at me as at a perfect stranger; that was what suddenly convinced me. The more I looked after that the more certain I was, though the likeness is so wonderful that it has to me the horrible effect of another spirit having got into that body. Only I—his father evidently believes that he is his son."

"Have you thought what strong evidence that is?"

"Yes, but my certainty is stronger."

"Has it occurred to you that Osmund Questin may have met with some bad accident, or had an illness that affected his mind? That would account for everything."

"Yes, but it would not make front teeth that were side by side fold over one another slightly."

Dick could not forbear a smile. "Well," he said, "there have been some uncommonly queer cases of mistaken identity, even to scars turning up in the right spot; but never mind, what do you want me to do?"

"At first I meant to go myself to Belfort and trace him onward, but, on thinking it over, I have decided that a man can do so much better than a woman in such a case; and therefore, if, as you tell me you have nothing to do at present, you would be so kind as to act for me—of course," she added, coloring, "at my expense—and as a commission to be settled on quite a business footing, I shall be more, oh, much more than obliged. Do you think fifty pounds would do to begin with? You must tell me, because I do not know, and later on I could get more."

Dick would have asked for nothing better than to undertake the adventure at his own expense, but it was absolutely impossible to the poor fellow, so he took the straightforward proposal in the best manner possible, declaring that fifty pounds would go an enormous way, and that, unless bribery were called into play, he should hope to spend less, and that as for anything over and above expenses (which he silently resolved should not include his own living), that was out of the question, and he was much obliged for the chance.

All was very speedily arranged, and then poor Anastasia looked over the list of all the salvage of the family wreck. She loved every article of it, every bit of old plate, jewelry, china, old damask; half belonged to Lottie, but they had been valued and divided, and if she could get money in no other way she would sell her half at Christie's. She was obliged to consult Dick Sherrieff about it, and he was most unhappy at the notion of the sacrifice, though it was not for him to prevent it. Finally she picked out a pearl necklace and ear rings and some bits of plate and sold them for rather more than she had expected. Seventy pounds in crisp notes she handed over to Dick, who said it was his first experience of money responsibilities.

III.

The post card from Belfort was also in Dick's hands, two photographs of Osmund Questin and his last letters from Rome. Anastasia's latest idea had been the bold one of advertising for Mr. Septimus S. Perkins in The Times, The New York Herald, and Le Petit Journal, giving Anastasia's address and Dick's Paris hotel.

The first thing Dick ascertained was that the proper number of tickets taken for Paris on the day Osmund Questin traveled through were delivered up. His next step was an exhaustive search for his name throughout the Paris hotels. He was soon able to inform Anastasia, whom he chose to call his client, that he had discovered it at the Bristol. At the Bristol he had evidently stopped for several weeks, but nothing special could be gathered about him beyond his having been remarked for his wonderful skill at billiards. From thence he was traced by the aid of a detective up to the very day of quitting France for England. The history was clear and commonplace, and Dick began to feel he had let himself in for rather an absurd chase after a phantom fancy.

However, while he lingered unwilling to throw it up yet, a card was one day put into his hand, and a brisk little gentleman immediately stepped up and, shaking hands warmly, announced himself to be no other than Mr. Septimus S. Perkins. "And now, sir, what d'ye want with me? I rather expect to see Mr. Osmund Q. Questin, but I guess you are not much like that gentleman."

"I'm delighted to make your acquaintance, though," rejoined Dick. "I've come over to trace Mr. Questin, and want all the information I can get."

"You don't mean he's missing? I thought he was in for a pretty severe sickness when we parted, but if he fell sick on the way surely he didn't die without wiring his friends?"

"He seems, on the contrary, to have fetched Paris in excellent health," said Dick. Then Mr. Perkins gave a circumstantial account of every hour he had spent in Osmund's company, which were not many.

"It wasn't that we hoped you could tell us much, but you were the last friend he named in his letters. Here's his face, do you recognize it?" Dick continued, placing the photograph before Mr. Perkins.

"Yes," he said, examining them. "That's him, but oddly enough, they remind me of a trifling incident that had slipped my memory. A man got into that car while we were coming along the outskirts of Rome City, more like your friend than ever I saw twin bears. Dror! Mr. Questin didn't particularly notice it."

"Did they know one another?"

"Not they, and didn't meet again so far as I know."

"Ah, there we are, you know, just where we were," said Dick disconsolately. "I'd better tell you the whole story," he went on.

"That's what I meant to have when I answered that advertisement that got hurled at me through three organs."

Whereupon Sherrieff gave the full history, reserving any opinion on it.

"If you take my advice, sir, you will just reserve your operations, and watch the man in London, whether he is the true Simon Pure or not."

Taking the hint, Sherrieff wrote to Anastasia. Instead of a letter came a telegram:

"In Paris since Thursday."

"So much the better for us," commented Mr. Perkins. "Now for a round of hotels again."

"Beginning with 'The Bristol,'" said Dick.

"If he goes back to the Bristol it's ten to one in his favor."

He was not at the Bristol this time, but at Meurice's, a fact soon ascertained. Nay, further, Mr. Perkins moved himself into Meurice's, and by cunning bribery got into Mr. Questin's room and made notes of all he found there. He recognized among other articles the small valise he had noticed in the tram car. He invited Sherrieff to dinner, and the pair awaited with intense excitement the entrance of Mr. Questin.

He came in when they were seated at table d'hôte, and took his place opposite them. Dick turned crimson and slightly kicked his friend.

"Oh, it's the man," murmured Mr. Perkins, rather crestfallen, and yet pleased to see his acquaintance again. "How are you, sir?" he said across the table. "Glad to meet you again, Mr. Questin."

"How are you, sir?" he said across the table. Mr. Questin glanced sharply up, bowed, then seemed to recollect the speaker, for he said cordially that he was glad to see him.

"You look pretty fit now, sir," remarked Mr. Perkins, "but I thought you likely to be real sick when we parted in Rome."

"I was for a bit," the other answered, "but I soon picked up."

"You were well out of Naples; they had cholera at compound interest after you left."

"Yes, it's not a thing I would go out of my way to meet."

"See anything of it when you were around?"

"Oh, I believe the poor beggars were dying of it, but it's smuggled away as much as possible."

"Ah! Didn't you tell me that you had a kind of nervous shrinking; that it was about the only mortal thing that scared you, Mr. Questin?"

"Just that," answered the other, with a slight laugh, then he turned to some topic of the day, and an animated conversation ensued.

Mr. Perkins took no notice of Dick's eager questions and comments until the two were at the latter's hotel, when, slowly removing his big cigar, he said: "She's right, as a young woman in love should be. It's another man."

At this astounding announcement Dick seized him by the arm, gasping with anxiety to hear more.

"Face, same; voice, same—a action, same; inside all wrong; not hit that off. Now to discover if he has murdered the other. Can't make out if he is the other man in the car."

Dick wrote at once to Anastasia, saying that they had a clew at last.

"Now," said Mr. Perkins, "we'll get a right 'cute sort of detective, and keep an eye on our friend day and night."

Directly Anastasia heard that there seemed a possibility of her idea being a correct one, she began to put together all that Osmund had ever told about the Questin family, with the conviction that if there was an impostor in the case, so strong a likeness could not be a mere accident. She then wrote to Sherrieff, telling him that Mr. Questin's younger brother had married a sister of his wife's, and that when he declined supplying their extravagant wants any longer, they had vanished from sight, and that they had had one if not more sons, whom Osmund had never known.

Anastasia was now in a condition of feverish anxiety; her nerves in a terrible state of tension; haunted by pictures of what might be, weighing in the balance the chance of ever again having her lover restored to her, daring not to lift her hopes too high in dread of their being knocked down again.

After having suffered the cruel abatement of that sudden contemptuous desertion, after having had her love torn, crushed and bleeding, from her heart, all these hopes and fears were a strain upon her too great to have been long endured.

She had made up her mind to bear it, nevertheless, for some time yet, when a telegram relieved her from acute suspense:

"You are wanted. SHERRIEFF."

Twelve hours later she entered the Hotel de France and was met by Dick, scarcely able to contain his excitement. Pale as death she grasped his outstretched hands, but could not speak.

"He is found—alive," said Dick. Al-

most in a whisper, overcome himself by the sight of suppressed emotion stronger than he had given human nature credit for.

Then she gave a little sob and turned away. Oh, unspeakable mercy! should not she give thanks and praise in her heart, even before she asked a single question?

Dick could not have made a long story of it then, though he did afterwards.

"We tracked him—the fellow—at last to a maison de sante outside Paris, and there he is—ill, rather; has been very ill—that's only natural. That scoundrel placed him there as an insane relative, and goes to see him, I believe, for the sake of studying his part. You must come and swear to his identity and then we will telegraph for the father."

She could not see him till the next day, when she and Dick went together and found the dear Septimus Perkins waiting for them, because he would not trust himself upon her sooner.

"Got him safe, ma'am," he whispered jerkily, "but you mustn't expect to find his hair curled and his handkerchief scented." This with great earnestness.

The door opened, a French doctor with a waxed mustache bowed himself into the room and invited Anastasia to follow him into the inner one.

If the doctor was so moved that he could only shed tears copiously into a large cambric handkerchief; if Septimus Perkins was stamping and coughing in the other room to keep his sympathy within bounds; if Dick had a mist before his eyes, then should not the curtain fall over that wonderful reunion? Ah, dear love and unfeeling truth, what a mixture, sunken face and lean, trembling figure! It was Osmund himself, though a wreck.

"Oh, sweetheart; oh, my own!"—heart to heart spoke what lips could not utter. The only disappointment was to the doctor. "These English—they speak so little; they throw away situations the most ravishing," so he meditated.

They all thought themselves very clever excepting Tasia, who thought of nothing but how to pet and comfort her "foundling," as Mr. Perkins called him, and to bring him back to health; but they had to deal with wits as sharp as their own. When they marched forth armed with the law to arrest the pseudo Osmund Questin, all trace of him had vanished; but a brief letter addressed to Mr. Questin, Sr., which came by post, threw much light upon the past:

"DEAR UNCLE—As impertinent persons have upset my arrangements, and will, ere this, have surprised you by an exchange of sons, I think it expedient to run down into Spain. Now don't trouble to seek for me, for Spain is not accommodating in these matters, and as I am positively your nearest relative, after my cousin Osmund (who holds to life with the most unaccountable tenacity, seeing what a poor idea he has of enjoying it), you will, I presume, let the affair drop. I saw your son first in Rome, when his extraordinary resemblance to myself—his double first cousin—put a little scheme into my head. We traveled alone from Belfort, and I give you my word I could as easily have dismissed him from a world of disappointments, as reduce him to a state of partial insensibility, in which I conveyed him with all tenderness to the admirable institution wherein he has been ever since. Should you ever require an establishment of this kind, I can most heartily recommend it, and I have given Dr. S— full authority to use my name. After all I was right—nothing but insanity could have induced Osmund to help nurse cholera patients at Naples, with whom he had no more to do than with the man who picks up sticks in the moon, as I now find he did.

"Now, when you are disposed to reflect upon that part of my conduct which affects myself, pray bear in mind two things: firstly, that my grandfather left all his wealth to you, for the mean reason that my father knew how to spend it, and, secondly, that you were so pleased at what you took for your son's submission to your will, that you received me with what I must describe as foolish impetuosity, and without the slightest compunction for the young lady who has proved herself a better man than any of us. How I come to know about her matters not, but I confess I have not an idea what put her on the track. I have always found these women too clever for me, and I don't doubt that this is also your experience.

"Many thanks for all favors. Remember me kindly to Osmund and the young lady, your future daughter-in-law."

"Believe me, yours very truly,

"LEOPOLD QUESTIN."

"And so," said Mr. Questin to Anastasia, "you sold your little pearl necklace for the sake of this fellow, did you? I only hope you may not live to consider it the dearest bargain you ever made."

Not long after Mr. Questin had discovered to what extent his nephew Leopold had robbed him by means of forged checks, the marriage of Osmund and Anastasia was celebrated at the English embassy.

Six months later Osmund said to his wife, "Leopold, the scoundrel, was the best friend I ever had. What was three months' detention, when all the time I was but serving for my Rachel?"

THE END.

Fall Fabrics.

Among the silks are a great number of foulards in heavier texture than heretofore, but of very flexible weave. There is no dress for ordinary wear that is so cheap as a good foulard. One can be purchased at about seventy cents per yard—and twelve yards make an ample dress—and requires next to no trimming. The silk is durable and can be worn quite constantly for two or three years without much change. Dust does not stick to it, and if any other misfortune in the way of grease spots happen it can be cleaned like new at a professional cleaner's for seventy-five cents. It is suitable for any hour in the day, and by the addition of a handsome fichu can be made quite dressy enough for any dinner, except perhaps a very grand one.—New York Fashion Letter.

THE REALM OF SCIENCE.

SUBJECTS THAT COMBINE RECREATION AND INFORMATION.

Entertaining Experiments Illustrating the Conductibility of Heat, That May be Performed Without Special Apparatus—Why Metals Feel Cold.

The "science" of heat, as we may term it, is only in its infancy, or certainly has scarcely come of age. Formerly heat was considered a chemical agent, but now it is found to be motion which affects our nerves of feeling and sight. As Professor Stewart tells us, "A heated body gives a series of blows to the medium around it, and although these blows do not affect the ear, they affect the eye and give us a sense of light." In considering heat scientifically, the idea of warmth and cold is set aside, for they are only different degrees of heat, not the absence of it.

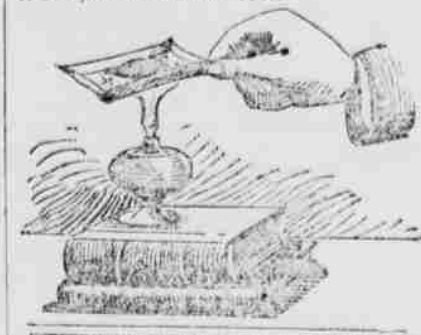


FIG. 1.—MELTING A PIECE OF TIN ON A GLASS.

The study of heat can be easily undertaken without any complicated apparatus. For instance, we obtain a piece of the great conducting power of metals, let us place a thin piece of metal tightly stretched over a lump of polished metal. On the metal we put a burning ember, and excite combustion by blowing on it; the metal is not burned in the least, the heat being entirely absorbed by the metal, which draws it through the material into itself. Fig. 1 represents a similar experiment; it consists of melting some tin on a playing card, and over the flame of a spirit lamp. The metal becomes completely melted without the card being burnt.

It is through a similar effect that metals appear cold to us when we take them in our hands; by their conductivity they remove the heat from our hands, and give us the peculiar impression which we do not experience when in contact with substances that are bad conductors, such as wood, wooden materials, etc.



FIG. 2.—BOILING WATER IN A PAPER CASE.

Fig. 2 shows the method of boiling water in paper. We make a small paper box, such as those made by school boys, and suspend it by four threads to a piece of wood held horizontally at a suitable height. We fill this improvised vessel with water, and place it over the flame of a spirit lamp. The paper is not burnt, because the water absorbs all the heat into itself. After a few minutes the water begins to boil, sending forth clouds of steam, but the paper remains intact. It is well to perform this operation over a plate, in case of accident, as the water may be spilt. We may also make use of an egg shell as a little vessel in which to heat the water by resting it on a wire ring over the flame of the spirit lamp.

Why 23,000 Pounds Is a Horse Power.

When men begin first to become familiar with the methods of measuring mechanical power, they often speculate on where the breed of horses is to be found which keep at work raising 23,000 pounds one foot per minute, or the equivalent, which is familiar to men accustomed to pile driving by horse power, of raising 300 pounds 100 feet per minute. Since 23,000 pounds raised one foot per minute is called one horse power, it is natural for people to think that the engineers who established that unit of measurement based it on the actual work performed by horses.

But such, explains The Manufacturers' Gazette, was not the case. The horse power unit was established by James Watt about a century ago, and the figure was selected in a curious way. Watt, in his usual careful manner, proceeded to find out the average work which the horses of his district could perform, and he found that the raising of 22,000 pounds one foot per minute was about an average horse power. At this time he was engaged in the manufacture of engines, and had almost a monopoly of the engine building trade. Customers were so hard to find that all kinds of artificial encouragements were considered necessary to induce power users to buy steam engines. As a method of encouraging business, Watt offered to sell engines reckoning 23,000 foot-pounds to a horse power, or one-third more than the actual. And thus, what was intended as a temporary expedient to promote business has been the means of giving a false unit of a very important measurement to the world.

The Dangers of Hypnotism.

A German scientist warns against the inconsiderate and incautious employment of hypnotism. He says that hypnotism under all circumstances has a disturbing effect upon the mental condition, and that subjects of experiment are always transiently hysterical, that the results in different individuals cannot be predicted, and that unfavorable results may follow.

Scientific Notes.

The use of peat fiber in making brown paper, wrappers, mill board, etc., has been introduced into a number of mills in England. It is claimed that by chemical treatment it is made stronger than wood pulp, at a saving of 50 per cent. compared with the latter.

The experiment of passing a current of electricity into the wheels of a locomotive engine, in place of sanding the track, is reported to have been tried with successful results on one of the steepest grades of the Philadelphia and Reading railroad.

Low tension and copper cable is Dr. Leon and Waldo's proposed remedy for the dangers of electric lighting.

After three years of observation and experiment, G. H. Faller, of Kansas, concludes that about three and a half pounds of nitrogen are annually added to an acre of soil by the rains.